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TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.
140525

In Re Application Of: **Miller et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/707,775	January 12, 2004	John Fernando Ramirez	23413	3737	1774

Invention: **RESPIRATORY MEASUREMENT SYSTEM AND METHOD RELATED THERETO**

COMMISSIONER FOR PATENTS:

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John Buckert
Signature

Dated: **September 20, 2006**

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cc:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Miller et al.	)
		) Group Art Unit:
		) 3737
SERIAL NUMBER:	10/707,775	)
		)
FILED:	January 12, 2004	) Examiner
		) Ramirez, John F.
		)
FOR:	RESPIRATORY MEASUREMENT SYSTEM AND METHOD RELATED THERETO	)

APPEAL BRIEF

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1. THE REAL PARTY IN INTEREST

The real party in interest in this appeal is GE Medical Systems Global Technology Company, LLC. Ownership by GE Medical Systems Global Technology Company, LLC is established by an assignment document recorded for this application on January 12, 2004, on Reel 014249 Frame 0630.

2. RELATED APPEALS AND INTERFERENCES

Applicant is not aware of any related appeals or interferences.

3. STATUS OF CLAIMS

Claims 1-20 are currently pending and are the claims on appeal.

Claims 1, 2, 6, 9, 12, 14, 15 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki et al., U.S. Patent No. 4,878,499, in view of Knapp, II et al., U.S. Patent No. 6,740,046.

Claims 3-5, 7, 8, 10, 11, 13, 16-18, and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki et al., U.S. Patent No. 4,878,499, in view of Watson et al., U.S. Patent No. 4,308,872.

Claims 7, 8 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., U.S. Patent No. 4,878,499 in view of Applicant's admitted prior art.

4. STATUS OF AMENDMENTS

Applicant submits that no amendments were filed subsequent to the Final Office Action.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a respiratory measurement system. The respiratory measurement system includes a plastic cord that is configured to be placed across a chest of a person. See Figure 1 illustrating plastic cord 18 and paragraph 0014. The plastic cord is substantially transparent to x-rays. See paragraph 0014. The respiratory measurement system further includes a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person. See Figure 1 illustrating sensor 24 and plastic cord 18 and paragraph 0018.

Dependent claim 2 recites that the respiratory measurement system of claim 1

further comprises a device generating a visual indication of respiratory function of the person based on the signal. See Figures 1 and 3 illustrating display device 36, and paragraph 0021.

Dependent claim 3 recites that the respiratory function of claim 2 comprises a lung volume level. See paragraph 0018.

Dependent claim 4 recites that the plastic cord of claim 1 is a polypropylene string. See paragraph 0014.

Dependent claim 5 recites that the respiratory measurement system of claim 1 further comprises a plastic tube configured to be placed across the chest of the person, the plastic cord being disposed in the plastic tube. See Figure 2 illustrating tube 30, and paragraph 0017.

Dependent claim 6 recites that the sensor of claim 1 is a linear position encoder. See paragraph 0018.

Dependent claim 7, recites that the respiratory measurement system of claim 1 further comprises a tabletop having a securing device and a pulley coupled thereto, wherein a first portion of the plastic cord extends between the securing device and the pulley, the securing device and the pulley being positioned on the tabletop to allow the chest of the person to be disposed between the securing device and the pulley. See Figures 1 and 2 illustrating tabletop 14, string securing device 23, and pulley 22, and paragraphs 0013, 0015, and 0016.

Dependent claim 8 recites that a second portion of the plastic cord of claim 7 extends from the pulley to the sensor. See Figure 1 illustrating plastic cord 18.

Independent claim 9 is directed to a method for measuring respiratory motion of a

person. The method includes disposing a plastic cord across a chest of the person. See Figure 1 illustrating plastic cord 18 and paragraph 0014. The plastic cord is substantially transparent to x-rays. See paragraph 0014. The method further includes generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person utilizing a sensor coupled to the plastic cord. See Figure 1 illustrating sensor 24 and plastic cord 18, and paragraph 0018.

Dependent claim 10 recites that the method of claim 9 further comprises disposing a plastic tube across the chest of the person, the plastic cord being disposed in the plastic tube. See Figure 2 illustrating plastic cord 18 and tube 30.

Dependent claim 11 recites that the plastic cord of claim 9 comprises a polypropylene string. See paragraph 0014.

Dependent claim 12 recites that the method of claim 9 further comprises providing a visual indication of respiratory function of the person based on the signal. See Figures 1 and 3 illustrating display device 36, and paragraph 0021.

Dependent claim 13 recites that the respiratory function comprises a lung volume level. See paragraph 0018.

Independent claim 14 is directed to a medical diagnostic system. The medical diagnostic system includes a tabletop. See Figure 2 illustrating table top 14. The medical diagnostic system further includes an X-ray device disposed proximate the tabletop. See Figure 2 illustrating X-ray device 12. The medical diagnostic system further includes a plastic cord that is configured to be placed across a chest of a person lying on the tabletop. See Figure 1 illustrating plastic cord 18, and paragraph 0014. The plastic cord is substantially transparent to x-rays. See paragraph 0014. The respiratory measurement system further includes a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the

person. See Figure 1 illustrating sensor 24 and plastic cord 18, and paragraph 0018. The sensor is outside a scanning area of the X-ray device. See paragraph 0018.

Dependent claim 15 recites that the medical diagnostic system of claim 14 further comprises a device generating a visual indication of respiratory function of the person based on the signal. See Figures 1 and 3 illustrating display device 36, and paragraph 0021.

Dependent claim 16 recites that the respiratory function of claim 15 comprises a lung volume level. See paragraph 0018.

Dependent claim 17 recites that the plastic cord of claim 14 comprises a polypropylene string. See paragraph 0014.

Dependent claim 18 recites that the medical diagnostic system of claim 14 further comprises a plastic tube configured to be placed across the chest of the person, the plastic cord being disposed in the plastic tube. See Figure 2 illustrating tube 30, and paragraph 0017.

Dependent claim 19 recites the sensor of claim 14 comprises a linear position encoder. See paragraph 0018.

Dependent claim 20 recites that the medical diagnostic system of claim 14 further comprises a securing device and a pulley coupled to the tabletop, a first portion of the plastic cord extending between the securing device and the pulley, the securing device and the pulley being positioned on the tabletop to allow a chest of the person to be disposed between the securing device and the pulley. See Figures 1 and 2 illustrating tabletop 14, string securing device 23, and pulley 22, and paragraphs 0013, 0015, and 0016.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether the claims 1, 2, 6, 9, 12, 14, 15 and 19 are unpatentable under 35 U.S.C. §103(a) over Suzuki et al., U.S. Patent No. 4,878,499, in view of Knapp, II et al., U.S. Patent No. 6,740,046.

Whether the claims 3-5, 7, 8, 10, 11, 13, 16-18 and 20 are unpatentable under 35 U.S.C. §103(a) over Suzuki et al. in view of Watson et al., U.S. Patent No. 4,308,872.

Whether the claims 7, 8 and 20 are unpatentable under 35 U.S.C. §103(a) over Suzuki et al. in view of Applicant's admitted prior art.

7. ARGUMENT

A. THE EXAMINER'S REJECTION OF CLAIMS 1, 2, 6, 9, 12, 14, 15 and 19 UNDER 35 U.S.C. §103(a) IS IMPROPER

The Examiner's rejection of claims 1, 2, 6, 9, 12, 14, 15 and 19 under 35 U.S.C. 103(a) is improper because the Examiner has not identified any proper motivation for the proposed combination of references and the combination of references do not teach each and every limitation of the claims.

i. The Examiner's rejection of claims 1, 2, 6, 9, 12, 14, 15 and 19 is improper because the Examiner has not identified any proper motivation for the proposed combination of Suzuki et al. and Knapp, II et al.

Applicant notes that claims 1, 2, 6, 9, 12, 14, 15 and 19 do not stand or fall together as a group. However, the following arguments in this subsection apply to claims 1, 2, 6, 9, 12, 14, 15 and 19.

Referring to Knapp, II et al., the reference is directed to an apparatus for enhancing patient compliance during inspiration measurements. The apparatus utilizes a flexible "conductor" or "conductive loop", which may be sewn into a flexible elastic belt. See Knapp, II et al., column 4, lines 6-19, and Figure 1. Applicants note that the flexible "conductor" of Knapp, II et al. would generate undesirable image artifacts on images of a

patient generated by the magnetic resonance imaging system of Suzuki et al. Thus, the combination of the teachings of Suzuki et al. and Knapp, II et al. would impair and/or destroy the functionality of Suzuki et al. by generating undesirable image artifacts in images of a patient. Thus, the Examiner has not identified any proper motivation for combining Suzuki et al. with Knapp II et al. when doing so would impair and/or destroy the functionality of the primary reference Suzuki et al.

In addition, combining Knapp, II et al. with Suzuki et al. by coupling the flexible elastic belt disclosed in Knapp, II et al. to the pressure detector of Suzuki et al., as suggested by the Examiner, would impair and/or destroy the functionality of the respiration detector 10 disclosed in Suzuki et al. See Suzuki et al, column 4, lines 53-57. Applicant notes that the pressure detector of Suzuki et al. would not be able to generate a measurement signal indicative of an amount of displacement of the flexible elastic belt disclosed in Knapp, II et al. Accordingly, applicant respectfully submits that no proper motivation has been identified for the combination of Suzuki et al. and Knapp, II et al.

Because no proper motivation has been identified for the proposed combination, applicant submits that the rejection of claims 1, 2, 6, 9, 12, 14, 15 and 19 based on Suzuki et al. and Knapp, II et al. under 35 U.S.C. §103(a) is improper.

ii. The Examiner's rejection of claims 1, 2, 9, 12, 14, and 15 is improper because the proposed combination of Suzuki et al. and Knapp, II et al. does not teach each and every limitation of the claims

Claims 1, 2, 9, 12, 14 and 15 stand or fall together as a group.

Referring to independent claim 1, the claim recites in part:
"a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays; and, a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person."

As noted by the examiner, Suzuki et al. does not teach "a plastic cord that is

configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays". See Office Action dated 4/24/06, pg. 2.

Referring to Knapp, II et al., the reference provides a patient interface in the form of a "flexible conductor", or a "conductive loop" that may be sewn into a flexible elastic belt. See Knapp, II et al., column 4, lines 5-18. Accordingly, Knapp, II et al. does not provide any teaching of a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays, as recited in independent claim 1. In contrast, Knapp, II et al. utilizes a flexible conductor that would not be substantially transparent to x-rays when combined with the Suzuki et al. system.

Accordingly, Suzuki et al. and Knapp, II et al. alone or in combination does not teach "a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays" as recited in claim 1.

Further, referring to Suzuki et al., the reference does not provide any teaching of "a sensor coupled to a plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person", as recited in claim 1. Rather, Suzuki et al. utilizes a pressure detector coupled to an air bag 10 for detecting respiration of a patient. See Suzuki et al., column 4, lines 53-57. While the pressure detector disclosed in Suzuki et al. may detect the pressure inside an air bag, it does not provide a measurement signal indicative of an amount of displacement of a plastic cord, as recited in independent claim 1.

Referring to Knapp, II et al., the reference provides an inspiration volume amplifier circuit 24 including "circuitry for measuring the inductance of the patient interface to provide an analog amplifier output signal 26 indicative of the patient's instantaneous inspiration volume." See Knapp, II et al., Figure 1 and column 3, lines 63-67. Knapp, II et al., however, does not provide any teaching of a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, as recited in independent claim 1. In contrast, Knapp, II et al. utilizes a circuit that measures the inductance of a flexible conductor to

determine inspiration volume.

Accordingly, Suzuki et al. and Knapp, II et al. alone or in combination does not teach " a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person", as recited in claim 1.

Accordingly, because the combination of Suzuki et al. and Knapp, II et al. does not teach each and every limitation of independent claim 1, and claim 2 which depends from claim 1, applicant submits that the rejection of claims 1 and 2 based on Suzuki et al. and Knapp, II et al. under 35 U.S.C. §103(a) is improper.

Referring to independent claim 9, the claim recites in part:
"disposing a plastic cord across a chest of the person, the plastic cord being substantially transparent to x-rays; and, generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person utilizing a sensor coupled to the plastic cord."

In particular, the Suzuki et al. and the Knapp, II et al. references alone or in combination do not provide any teaching of disposing a plastic cord across a chest of the person, the plastic cord being substantially transparent to x-rays, as recited in claim 9. Further, the references also do not provide any teaching of generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person utilizing a sensor coupled to the plastic cord, as recited in claim 9.

Accordingly, because the combination of Suzuki et al. and Knapp, II et al. does not teach each and every limitation of independent claim 9, and claim 12 which depends from claim 9, applicant submits that the rejection of claims 9 and 12 based on Suzuki et al. and Knapp, II et al. under 35 U.S.C. §103(a) is improper.

Referring to independent claim 14, as amended, the claim recites in part: "a plastic cord that is configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays; and, a sensor operatively coupled to

the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the sensor being outside a scanning area of the X-ray device."

The Suzuki et al. and the Knapp, II et al. references alone or in combination do not provide any teaching of a plastic cord that is configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays, as recited in claim 14. Further, the references do not provide any teaching of a sensor operatively coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the sensor being outside a scanning area of the X-ray device, as recited in claim 14.

Accordingly, because the combination of Suzuki et al. and Knapp, II et al. does not teach each and every limitation of independent claim 14, and claim 15 which depends from claim 14, applicant submits that the rejection of claims 14 and 15 based on Suzuki et al. and Knapp, II et al. under 35 U.S.C. §103(a) is improper.

iii. The Examiner's rejection of claims 6 and 19 is improper because the proposed combination of Suzuki et al. and Knapp, II et al. does not teach each and every limitation of the claims.

Claims 6 and 9 stand or fall together as a group.

Referring to dependent claim 6, the claim recites: The respiratory measurement system of claim 1 wherein the sensor comprises a linear position encoder. Dependent claim 9 has similar limitations.

Applicant submits that Suzuki et al. and Knapp, II et al. do even mention use of a linear position encoder.

Accordingly, because the combination of Suzuki et al. and Knapp, II et al. does not teach each and every limitation of dependent claims 6 and 19, applicant submits that the rejection of claims 6 and 19 based on Suzuki et al. and Knapp, II et al. under 35 U.S.C.

§103(a) is improper.

B. THE EXAMINER'S REJECTION OF CLAIMS 3-5, 7, 8, 10, 11, 13, 16-18 and 20 UNDER 35 U.S.C. §103(a) IS IMPROPER

The Examiner's rejection of claims 3-5, 7, 8, 10, 11, 13, 16-18 and 20 under 35 U.S.C. 103(a) is improper because the Examiner has not identified any proper motivation for the proposed combination of references and the combination of references do not teach each and every limitation of the claims.

i. The Examiner's rejection of claims 3-5, 7, 8, 10, 11, 13, 16-18 and 20 is improper because the Examiner has not identified any proper motivation for the proposed combination of Suzuki et al. and Watson et al.

Applicant notes that claims 3-5, 7, 8, 10, 11, 13, 16-18 and 20 do not stand or fall together as a group. However, the following arguments in this subsection apply to claims 3-5, 7, 8, 10, 11, 13, 16-18 and 20.

Referring to Watson et al., the reference is directed to an apparatus for monitoring respiration. The apparatus utilizes an electrically conductive loop that is constructed from gauge stranded copper. See Watson et al., column 3, lines 24-32 and column 4, lines 62-65. Applicant notes that the conductive copper loop of Watson et al. would generate undesirable image artifacts on X-ray images of a patient generated by the system of Suzuki et al. Accordingly, the combination of the teachings of Suzuki et al. and Watson et al. would impair and/or destroy the functionality of Suzuki et al. by generating undesirable image artifacts in images of a patient. Accordingly, applicant respectfully submits that no proper motivation has been identified for the combination of Suzuki et al. and Watson et al.

Because no proper motivation has been identified for the proposed combination of Sukuki et al. and Watson et al., applicant submits that the rejection of claims 3-5, 7, 8, 10, 11, 13, 16-18 and 20 based on Suzuki et al. and Watson et al. under 35 U.S.C. §103(a) is improper.

ii. The Examiner's rejection of claims 3, 7, 8, 13, 16 and 20 is improper because the proposed combination of Suzuki et al. and Watson et al. does not teach each and every limitation of the claims

Claims 3, 7 and 8 depend from independent claim 1 and include all of the limitations of claim 1. As noted by the examiner, Suzuki et al. does not teach "a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays". See Office Action dated 4/24/06, pg. 2. Further, Suzuki et al. also does not teach "a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person", as recited in claim 1.

Referring to Watson et al., the reference utilizes an electrically conductive loop that is constructed from gauge stranded copper for monitoring respiration. See Watson et al., column 3, lines 24-32 and column 4, lines 62-65. Watson et al., however, does not provide any teaching of a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays, a recited in claim 1. In contrast, Watson et al. utilizes the electrically conductive loop constructed from copper that would not be substantially transparent to x-rays.

Accordingly, Suzuki et al. and Watson et al. alone or in combination do not teach "a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays" as recited in claim 1, and dependent claims 3, 7, and 8.

Further, Watson et al. does not provide any teaching of a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, as recited in claim 1 and dependent claims 3, 7, and 8. Rather, Watson et al. recites a "circuit that reliably and accurately measures changes in the inductance of the conductive loop mounted on the body encircling tube." See Watson et al., column 5, lines 54-56.

Accordingly, because the combination of Suzuki et al. and Watson et al. does not

teach each and every limitation of independent claim 1, and claims 3, 7, and 8 which depend from claim 1, applicant submits that the rejection of claims 3, 7 and 8 based on Suzuki et al. and Watson et al. under 35 U.S.C. §103(a) is improper.

Claim 13 depends from independent claim 9 and includes all of the limitations of claim 9. As noted by the examiner, Suzuki et al. does not teach " disposing a plastic cord across a chest of the person, the plastic cord being substantially transparent to x-rays", as recited in claims 9 and 13. See Office Action dated 4/24/06, pg. 2. Suzuki et al. also does not teach "generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person utilizing a sensor coupled to the plastic cord", as recited in claims 9 and 13.

Referring to Watson et al., the reference does not provide any teaching of: "disposing a plastic cord across a chest of the person, the plastic cord being substantially transparent to x-rays; and, generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person utilizing a sensor coupled to the plastic cord", as recited in claim 9.

Accordingly, because the combination of Suzuki et al. and Watson et al. does not teach each and every limitation of independent claim 9, and claim 13 which depends from claim 9, applicant submits that the rejection of claim 13 based on Suzuki et al. and Watson et al. under 35 U.S.C. §103(a) is improper.

Claim 20 depends from independent claim 14 and include all of the limitations of claim 14. As noted by the examiner, Suzuki et al. does not teach "a plastic cord that is configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays", as recited in claims 14 and 20. See Office Action dated 4/24/06, pg. 2. Further, Suzuki et al. also does not teach "a sensor operatively coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the sensor being outside a scanning area of the X-ray device", as recited in claims 14 and 20.

Referring to Watson et al., the reference does not provide any teaching of: "a plastic

cord that is configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays; and, a sensor operatively coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the sensor being outside a scanning area of the X-ray device", as recited in claims 14 and 20.

Accordingly, because the combination of Suzuki et al. and Watson et al. does not teach each and every limitation of independent claim 14, and claim 20 which depends from claim 14, applicant submits that the rejection of claim 20 based on Suzuki et al. and Watson et al. under 35 U.S.C. §103(a) is improper.

iii. The Examiner's rejection of claims 4, 11 and 17 is improper because the proposed combination of Suzuki et al. and Watson et al. does not teach each and every limitation of the claims

Claims 4, 11 and 17 stand or fall together as a group.

Referring to dependent claim 4, the claim recites: The respiratory measurement system of claim 1 wherein the plastic cord comprises a polypropyline string. Dependent claims 11 and 17 recite similar limitations.

Applicant submits that Suzuki et al. and Watson et al. do even mention use of a polypropyline string.

Accordingly, because the combination of Suzuki et al. and Watson et al. does not teach each and every limitation of dependent claims 4, 11 and 17, applicant submits that the rejection of claims 4, 11 and 17 based on Suzuki et al. and Watson et al. under 35 U.S.C. §103(a) is improper.

iv. The Examiner's rejection of claims 5, 10, 18 is improper because the proposed combination of Suzuki et al. and Watson et al. does not teach each and every limitation of the claims

Claims 5, 10, 18 stand or fall together as a group.

Referring to dependent claim 5, the claim recites: The respiratory measurement system of claim 1 further comprising a plastic tube configured to be placed across the chest of the person, the plastic cord being disposed in the plastic tube. Dependent claims 10 and 18 recite similar limitations.

Applicant submits that Suzuki et al. and Watson et al. do not provide any teaching of a plastic tube having a plastic cord disposed therein.

Accordingly, because the combination of Suzuki et al. and Watson et al. does not teach each and every limitation of dependent claims 5, 10 and 18, applicant submits that the rejection of claims 5, 10 and 18 based on Suzuki et al. and Watson et al. under 35 U.S.C. §103(a) is improper.

C. THE EXAMINER'S REJECTION OF CLAIMS 7, 8 and 20 UNDER 35 U.S.C. §103(a) IS IMPROPER

The Examiner's rejection of claims 7, 8 and 20 under 35 U.S.C. 103(a) is improper because the combination of references do not teach each and every limitation of the claims.

i. The Examiner's rejection of claims 7, 8, and 20 is improper because the proposed combination of Suzuki et al. and Applicant's admitted prior art does not teach each and every limitation of the claims

Applicant respectfully disagrees with the Examiner's characterization of the specification and asserts that the Examiner has misconstrued the teachings of the specification. Applicant notes that the specification did indicate that the x-ray device 12

and a pulley are "conventional." However, Applicant notes that nowhere in application 10/707,775 did the application recite or infer that: "a system that has a tabletop having a securing device and a pulley coupled thereto, wherein a first portion of the strapping device extends between securing device and the pulley, the securing device and the pulley being positioned on the tabletop to allow the chest of the person to be disposed between the securing device and the pulley, and wherein a second portion of the strapping device extends from the pulley to the sensor are conventional in the art...", as asserted by the Examiner. Accordingly, applicant submits that the Examiner's foregoing assertion is simply incorrect and unsupported.

Further, as noted by the examiner, Suzuki et al. does not teach "a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays", as recited in independent claims 1 and 14, and dependent claims 7, 8 and 20, which depend from one of claims 1 and 14. See Office Action dated 4/24/06, pg. 2.

Further, Suzuki et al. does not provide any teaching of a sensor coupled to a plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, as recited in claims 1 and 14, and dependent claim 7, 8, and 20, which depend from one of claims 1 and 14. Rather, Suzuki et al. utilizes a pressure detector coupled to an air bag for detecting respiration of a patient.

Accordingly, because the combination of Suzuki et al. and Applicant's admitted prior art does not teach each and every limitation of independent claims 1 and 14, and claims 7, 8 and 20 which depend from one of claims 1 and 14, applicant submits that the rejection of claims 7, 8 and 20 based on Suzuki et al. and Applicant's admitted prior art under 35 U.S.C. §103(a) is improper.

D. CONCLUSION

In view of the foregoing arguments, applicant respectfully submits that the recited claims are novel and unobvious. Further, a reversal of the rejections of record, or such recommendation or relief as equity may require, is respectfully requested.

Respectfully Submitted,

By John Buckert
John F. Buckert
Registration No. 44,572

Date: September 20, 2006

CLAIMS APPENDIX

Claim 1. A respiratory measurement system, comprising:

a plastic cord that is configured to be placed across a chest of a person, the plastic cord being substantially transparent to x-rays; and,

a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person.

Claim 2. The respiratory measurement system of claim 1 further comprising a device generating a visual indication of respiratory function of the person based on the signal.

Claim 3. The respiratory measurement system of claim 2 wherein respiratory function comprises a lung volume level.

Claim 4. The respiratory measurement system of claim 1 wherein the plastic cord comprises a polypropylene string.

Claim 5. The respiratory measurement system of claim 1 further comprising a plastic tube configured to be placed across the chest of the person, the plastic cord being disposed in the plastic tube.

Claim 6. The respiratory measurement system of claim 1 wherein the sensor comprises a linear position encoder.

Claim 7. The respiratory measurement system of claim 1 further comprising:

a tabletop having a securing device and a pulley coupled thereto, wherein a first portion of the plastic cord extends between the securing device and the pulley, the securing device and the pulley being positioned on the tabletop to allow the chest of the person to be disposed between the securing device and the pulley.

Claim 8. The respiratory measurement system of claim 7 wherein a second portion of the plastic cord extends from the pulley to the sensor.

Claim 9. A method for measuring respiratory motion of a person, comprising:

disposing a plastic cord across a chest of the person, the plastic cord being substantially transparent to x-rays; and,

generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person utilizing a sensor coupled to the plastic cord.

Claim 10. The method of claim 9 further comprising disposing a plastic tube across the chest of the person, the plastic cord being disposed in the plastic tube.

Claim 11. The method of claim 9 wherein the plastic cord comprises a polypropylene string.

Claim 12. The method of claim 9 further comprising providing a visual indication of respiratory function of the person based on the signal.

Claim 13. The method of claim 12 wherein said respiratory function comprises a lung volume level.

Claim 14. A medical diagnostic system, comprising:

a tabletop;

an X-ray device disposed proximate the tabletop;

a plastic cord that is configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays; and,

a sensor operatively coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the sensor being outside a scanning area of the X-ray device.

Claim 15. The medical diagnostic system of claim 14 further comprising a device generating a visual indication of respiratory function of the person based on the signal.

Claim 16. The medical diagnostic system of claim 15 wherein said respiratory function comprises a lung volume level.

Claim 17. The medical diagnostic system of claim 14 wherein the plastic cord comprises a polypropylene string.

Claim 18. The medical diagnostic system of claim 14 further comprising a plastic tube configured to be placed across the chest of the person, the plastic cord being disposed in the plastic tube.

Claim 19. The medical diagnostic system of claim 14 wherein the sensor comprises a linear position encoder.

Claim 20. The medical diagnostic system of claim 14 further comprising a securing device and a pulley coupled to the tabletop, a first portion of the plastic cord extending between the securing device and the pulley, the securing device and the pulley being positioned on the tabletop to allow a chest of the person to be disposed between the securing device and the pulley.

EVIDENCE APPENDIX

Attached hereto are U.S. Patent Nos. 4,878,499, 6,740,046, and 4,308,872.

RELATED PROCEEDINGS APPENDIX

Applicant is not aware of any related appeals or interferences.